UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 7

11201 Renner Boulevard

DEC 18 2013

MEMORANDUM

SUBJECT: Human Health Risk Assessment Work Plan and Screening Level Ecological Risk Assessment for Soil and Groundwater for the Former Total Petroleum Refinery, MRP Properties, LLC, Arkansas City, KS
RCRA ID#: KSD087418695

FROM: Catherine Wooster-Brown
Ecological Risk Assessor
ENSV/EAMB

TO: Brad Roberts
Project Manager
AWMD/RCAP

As requested, we have reviewed the 2013 Human Health Risk Assessment Work Plan and Screening Level Ecological Risk Assessment for the MRP Properties in Arkansas City, Kansas. The U.S. Environmental Protection Agency Region 7's ecological risk assessor's review is only for the screening level ecological risk assessment section of the document. If you have any questions or need further assistance, please contact me at #7425.

General Comments

The MRP site is situated at the confluence of two major rivers in Kansas, the Walnut River and the Arkansas River. The KAW Wildlife Area also borders the MRP property (Kansas Department of Wildlife, Parks, and Tourism). Therefore, a screening level ecological risk assessment is necessary for this site.

Previously, the EPA ecological risk assessors reviewed the 2011 Engineering Feasibility Plan for the MRP Properties and determined that a SLERA should be included in the upcoming 2013 Human Health Risk Assessment Work Plan. The EPA recently received the 2013 HHRA Work Plan which includes a Section (5.0) entitled Screening Level Ecological Risk Assessment. We have reviewed Section 5.0 and have the following Specific Comments:

Specific Comments

1. **Section 5.0, 5.1, 5.1.1, 5.1.2, 5.1.3, 5.1.4 (p. 5-1 and 5-2).** The Screening level Ecological Risk Assessment in Section 5 of this document is insufficient. The SLERA process consists of Steps 1 and 2 out of an 8 step process (EPA, 1997). For example, a SLERA would consist of the following:
    - A conceptual site model with all possible receptors for both aquatic and terrestrial.
    - A map with on-site habitats including areas of soil, sediment, and surface water.
    - A map with locations of previously collected data.
    - A list of species (including threatened and endangered) that may be found in the area. That list can be obtained from Kansas Department of Wildlife and Parks (2013).
    - Hazard Quotients (HQ, see below) performed for all previously collected soil, surface water, and sediment data using appropriate ecological screening levels (see below). Or, if there is a data gap then that gap needs to be identified and listed in the work plan and the data gap can be addressed during the 2014 field sampling event.

$$HQ = \frac{\text{Chemical of Concern Maximum Concentration}}{\text{Ecological Screening value}}$$

Lastly, a recommendation section needs to be included in the SLERA that states if the above information directs the ecological assessment to stop or move forward into a baseline ecological risk assessment.

Recommended Ecological Screening Levels for Use in Calculating HQs

Surface Water

- National Ambient Water Quality Criteria (U.S. EPA, 2009). http://water.epa.gov/scitech/swguidance/standards/criteria/current/index.cfm

- Kansas Water Quality Standards (KDHE, 2008) http://water.epa.gov/scitech/swguidance/standards/wqslibrary/upload/2008_11_12_standards_wqslibrary_ks_ks-tables.pdf

- Region 5 Ecological Screening Levels, (U.S. EPA, 2003). http://epa.gov/region05/waste/cars/pdfs/ecological-screening-levels-200308.pdf

Sediment

- MacDonald DD, Ingersoll CG, Berger T. 2000. Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. *Arch Environ Contam Toxicol* 39:20-31.

- Region 5 Ecological Screening Levels, (U.S. EPA, 2003). http://epa.gov/region05/waste/cars/pdfs/ecological-screening-levels-200308.pdf

Soil

- Ecological Soil Screening Levels. http://www.epa.gov/ecotox/ecossl/index.html

References

EPA, 1997. Ecological Risk Assessment Guidance for Superfund: Process for Designing and Conducting Ecological Risk Assessments - Interim Final. http://www.epa.gov/oswer/riskassessment/ecorisk/ecorisk.htm

Kansas Department of Wildlife, Parks, and Tourism, 2013. KAW Wildlife Park. http://www.kdwpt.state.ks.us/news/KDWPT-Info/Locations/Wildlife-Areas/Region-4/Kaw

CONCURRENCE: Kristina 7665:121813 H:/ENSV/EAMB/RISKASSESSORS/MEMORANDUMS/FY2014/MRPSLERA13-Final				
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DATE	12-18-13	12/18/13		
INITIALS	CWB	MWB		

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